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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,691	04/14/2004	Yusheng Zhao	S-102,389	8078

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EXAMINER	
HOFFMANN, JOHN M	
ART UNIT	**PAPER NUMBER**
1731	

DATE MAILED: 04/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding..

Office Action Summary	Application No.	Applicant(s)	
	10/824,691	ZHAO ET AL.	
	Examiner	Art Unit	
	John Hoffmann	1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 March 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *6-10 and 12-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *6-10, 12-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/15/2006 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims *6-10, 12-22* are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Examiner could find no support for the newly claimed encapsulating at a pressure in the range of from 15 to 25 GPa – either explicit or implicit. This is deemed to be a prima facie showing on failure to comply with the requirement. The burden is now on Applicant to show the requirement is complied with, or to amend the claims so

that they comply. Whereas the there is disclosure for 15-25 GPa pressure, such is disclosed as being applied after the powder has be encapsulated.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> **The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.**

Claims *7-10, 12-17, 19-22 are* rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7: there is no antecedent basis for "the ball milled mixture of graphite hexagonal boron nitride" it appears that there is an "and" missing from after "graphite". But this would still be indefinite because there would be no antecedent for this. This also applies for the mixture of claims 8-10. It is noted that claim 6 calls for two mixtures: the pre-balled milled mixture and the ball milled mixture – it is unclear which mixture claims 7-10 refer back to. The non-milled mixture is the only mixture which must have graphite. In other words the non-milled mixture has graphite, the milled mixture does/need not have graphite. Therefore there is no "ball milled mixture of graphite...." Thus it is clear it must be one of the mixtures, but it is impossible to tell which.

The amendment filed 3/15/2005 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: The changes to the ratios of pages 7-8 .

Applicant is required to cancel the new matter in the reply to this Office Action.

Response to Arguments

Applicant's arguments, see page 6, lines 17-20, filed 22 August 2005, have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of those arguments. The other prior art rejections are also withdrawn for the same reason: they do not teach that the "mixture is encapsulated under pressure first and then...heated...."

Response to Arguments

Applicant's arguments filed 3-15-2006 have been fully considered but they are not persuasive.

Applicant argues that the molar ratios in examples 2-5 are not 1:1 as described on page 7-8, but rather should be as shown in the Table on "page 7" (examiner

assumes page 6). Examiner agrees that there is a discrepancy with examples 2-5. However, there is no reason to believe the error was on pages 7-8. It could have just as easily have been the Table which has the errors. In other words, the correction does not pass the two-prong test for correcting obvious errors:

An amendment to correct an obvious error does not constitute new matter where one skilled in the art would not only recognize the existence of error in the specification, but also the appropriate correction. In re Oda, 443 F.2d 1200, 170 USPQ 268 (CCPA 1971).

Since Applicant has not pointed out how/why one skilled in the art would recognize the appropriate correction, it is deemed that a new matter objection is appropriate. Examiner searched (and could not find) other things which would show what the appropriate correction would be. Examiner was only more confused. Page 6-lines 15-16 indicates that entry 2 has a 2:1 ratio which suggests that perhaps the error on page 7, line 7 is that "1:1" should really be "2:1". Furthermore, the temperatures of examples 2 and 6 do not appear to correspond to the temperatures of the Table.

Regarding the 35 USC 112, first paragraph rejection it is argued that Examples 2-5 on pages 2-8 provide support for encapsulating at pressures of 15 GPa, 20 GPa and 25 GPa. This is not convincing. Those Examples are directed to pressures that occur AFTER encapsulating. In the response of 8/15/2005 (page 6, lines 17-20) Applicant indicates that the claims requires encapsulating under pressure first and then heated. Furthermore, this is what the plain reading of the claims requires. Examples 2-5 do NOT disclose this: there is no indication of any pressure during the encapsulation.

One of ordinary skill would read the examples as encapsulating under ambient, and then applying the pressure.

Furthermore, in the latest response (3/15/2006) at page 8, lines 8-9 states "...placing the ball milled powder into a platinum capsule (i.e. encapsulating), and using an anvil press..." Applicant clearly indicates that encapsulating is merely placement of powder into a capsule and that the pressing is another step. As indicated above, there is no support for encapsulating at the claimed pressures.

From MPEP 2111.01:

Plain Meaning
I. THE WORDS OF A CLAIM MUST BE GIVEN THEIR "PLAIN MEANING" UNLESS THEY ARE DEFINED IN THE SPECIFICATION
While the claims of issued patents are interpreted in light of the specification, prosecution history, prior art and other claims, this is not the mode of claim interpretation to be applied during examination. During examination, the claims must be interpreted as broadly as their terms reasonably allow. In re American Academy of Science Tech Center, **>367 F.3d 1359, 1369, 70 USPQ2d 1827, 1834 (Fed. Cir. 2004)< (The USPTO uses a different standard for construing claims than that used by district courts; during examination the USPTO must give claims their broadest reasonable interpretation.). This means that the words of the claim must be given their plain meaning unless applicant has provided a clear definition in the specification. In re Zletz, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989) (discussed below); Chef America, Inc. v. Lamb-Weston, Inc., 358 F.3d 1371, 1372, 69 USPQ2d 1857 (Fed. Cir. 2004) (Ordinary, simple English words whose meaning is clear and unquestionable, absent any indication that their use in a particular context changes their meaning, are construed to mean exactly what they say. Thus, "heating the resulting batter-coated dough to a temperature in the range of about 400oF to 850oF" required heating the dough, rather than the air inside an oven, to the specified temperature.). One must bear in mind that, especially in nonchemical cases, the words in a claim are generally not limited in their meaning by what is shown or disclosed in the specification. See, e.g., Liebel-Flarsheim Co. v. Medrad Inc., 358 F.3d 898, 906, 69 USPQ2d 1801, 1807 (Fed. Cir. 2004)(discussing recent cases wherein the court expressly rejected the contention that if a patent describes only a single embodiment, the claims of the patent must be construed as being limited to that embodiment). It is only when the specification provides definitions for terms appearing in the claims that the specification can be used in interpreting claim language. In re Vogel, 422 F.2d 438, 441, 164 USPQ 619, 622 (CCPA 1970). See also Superguide Corp. v. DirecTV Enterprises, Inc., 358 F.3d 870, 875, 69 USPQ2d 1865, 1868 (Fed. Cir. 2004)

Given that the plain reading of the claim is that encapsulating is at the pressure (and not prior thereto) and that applicant has argued that this is why the claims define over the prior art (8/15/05) – examples 2-5 do NOT provide support for the claims as argued by applicant.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

4-26-06

John Hoffmann
Primary Examiner

Art Unit 1731

jmh